Land policy REVIEW

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

Contributors

SAMUEL LISS, after serving for a half-year with the AMG at Frankfurt, Germany, on problems of manpower and labor relations, has resumed his position as agricultural economist in the Farmers Home Administration (formerly the FSA).

W. F. CALLANDER was introduced on a recent radio program as the best-known agricultural statistician in the world. He is Assistant Chief of the BAE in Charge of Statistics and for 24 years has been Chairman of the Crop Reporting Board.

ROWENA S. CARPENTER has been a nutritionist in the USDA for many years. More recently, in the Nutrition Programs office, as editor of the *Nutrition News Letter* she has reviewed all reports of the nutrition committees and become thoroughly familiar with the machinery and achievements of the National Nutrition Program.

T. R. STANTON, in charge of Oat Investigations, BPISAE, has headquarters at Beltsville, Maryland.

HUGH L. COOK, BAE, was project leader in a thorough study on readjustments in processing and marketing citrus fruits; it terminated in a comprehensive report to which all agencies of the USDA had an opportunity to contribute, and which was issued by the Interbureau Committee on Postwar Programs.

ROBERT W. HARRISON, agricultural economist in BAE, wishes to mention WALTER KOLLMORGEN (now on faculty of the University of Kansas) in connection with his article as they have been co-workers in this field.

AMY G. COWING is in charge of the Extension Readability Unit, which was set up in the Division of Field Studies and Training to study the readability of extension publications.

PHILIP L. BREAKIRON, in BAE, is a transportation economist.

MARSHALL HARRIS, at the request of the Caribbean Commission, represented the USDA and presented a paper at the Land-Tenure Symposium, in 1944 in Puerto Rico; the published report of the symposium includes his résumé of the papers, discussions, and tours. CARL C. TAYLOR, in Charge, Farm Population and Rural Welfare, BAE, will be absent for some months on other work in South America; also in this Bureau are NEIL JOHNSON, agricultural economist, and DOUGLAS ENSMINGER, social scientist.

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Family Farm Perspectives

By SAMUEL LISS. *As perspectives are one of the needs of our times the* REVIEW *welcomes these meditations from the organization long known as the FSA, now combined with other agencies to form the Farmers Home Administration.*

PUBLIC POLICY in this country, from early times to the present, has strongly favored the preservation and expansion of the family farm as the basic operating unit of production in American agriculture. Both sociological and political virtues have been associated with this policy. Today, the family farm is looked upon as a "symbol of democracy in action in the open country" and "a way of life". But both of these attributes have been divorced, for the most part, from economic considerations.

The tendency to romanticize about the virtues of family farms has been stronger than the willingness to wrestle with their economic problems. Only in recent years has it become increasingly apparent that if the national policy on family farms is to be realized and the inherent attractive potentialities which they possess as social organisms are to be realized, the harsh economic realities which they face as commercial enterprises must be reexamined in the light of contemporary farming conditions. (For an illuminating discussion of changes in economic conditions affecting family farms, see O. R. Johnson, "The Family Farm," *Journal of Farm Economics,* August 1944, and W. W. Wilcox, "The Economy of Small Farms in Wisconsin", *Journal of Farm Economics,* May 1944.)

Agricultural economists, among other students of our agricultural economy, are now generally in agreement today that if the family farm is to be preserved as the basic pattern of our farm industry, if it is to retain its social and economic stability, and if those objectives are to become more than pious hopes, it must be made economically sound and productively efficient, to survive the rigors of competition in agriculture. With the growing maturity of agriculture as an industry, "the farm as a place to live . . . contrasted with a place on which to work for profit . . . has been greatly overstated," observed

the Land Settlement Work Group of the Interbureau Committee on Postwar Agricultural Programs in the U. S. Department of Agriculture.

A realistic setting of the family farm in contemporary American Agriculture was recently portrayed by O. R. Johnson of the University of Missouri as follows: "Not only will it be necessary for agriculture to keep abreast of other industries in improvement of method and technique if it is to expect comparable rewards, but the family farm must either compete with highly commercialized agricultural production in effectiveness or be gradually relegated to a standard of living nearer the subsistence level." ("The Family Farm," *Journal of Farm Economics,* August 1944.)

In reality, its very prospects of survival practically depend on its ability to acquire the necessary factors of production and facilities that are characteristic of a progressive technological era in farming with a corresponding ability to support a level of living for its family members that is common to those of other occupational groups. Professor John D. Black has posed its survival prospects in this way: "The way to preserve the family farm in this country is to make it produce enough so that people will be satisfied to live on it. This means a family must be able to achieve the equivalent of the living obtained by the families of union labor in the cities." (Testimony before the *Special Committee on Postwar Economic Policy and Planning,* H. R. 78th Cong., 2d sess., pt. 5, December 1944.)

Land Base

Probably the single most important current factor of production affecting the economic efficiency of the family farm today is the size of its land base. Estimates indicate that at least one-half of the 3 million small farms in this country are under-sized family farms. This situation is bound to be aggravated as mechanization and other improvements increase the size of farm a family can operate. Conversely, Sherman E. Johnson of the U. S. Department of Agriculture notes that "full-time farms that are too small to utilize mechanical power effectively are also likely to be too small to provide a satisfactory living for a farm family." (*Changes in Farming in War and Peace,* U. S. Department of Agriculture, FM 58, June 1946.)

Contrasts

The Farmers Home Administration, as one of the principal action agencies in the field of habilitating the disadvantaged farm family and family farm in the next few years, is in a key position for helping to im-

Conviction

No passion runs deeper in the thoughts of the people of this country than the belief that all men should enjoy liberty under law. It has been our faith from the beginning of our Nation, it is our dream for the future, that every individual and every Nation should attain freedom and the security to enjoy it.

—Cordell Hull

Commentary

There is no foundation in nature or in natural law why a set of words upon parchment should convey the dominion of land.

—BLACKSTONE

prove management practices and raise the technological levels of operation of this desired and desirable American economic and social institution. Its over-all area of farm habilitation in the postwar period would seem to embrace about 2 million low-income producing family farm units. These are the farms which, at the very favorable price relationships in 1944, had an output valued at not more than $2,499 and not less than $600, and which produced primarily for the commercial market. The marginality of these farms is reflected in the fact that their aggregate contribution to the Nation's total value of agricultural production that year was only 18 percent, although they comprised 42 percent of the Census farms.

In contrast, it may be pointed out that there were about 1.7 million family farms which, measured by their production performance, may be assumed to have operated in 1944 with enough land and equipment, and to have had their family working members effectively employed on the farm. This was the category in which the average farm that year had a gross income from farming of almost $5,000, with no single unit falling below $2,500. As a group, they contributed 45 percent to our total farm output by value, even though they constituted less than 30 percent of the total number of Census farms.

Deficiencies

It is a fair appraisal that the 1.2 million family farms which grossed less than $1,500 from farming (but not less than $600), at 1944 prices, did not have a combination of the production resources of land, capital, labor, and working equipment to conduct a well-integrated family farm on a full commercial scale. Most of these farms, it can be reasonably assumed, had poor management practices, and had an insufficient land base or had land too inferior to permit an efficient use of machinery, livestock, and family labor in turning out a volume of production large enough to benefit fully from the most favorable farm prices in agriculture's history.

Exceptional

It is not difficult to conclude, moreover, that the approximately 880,000 family farms which at 1944 prices fell into the gross farm-value bracket of even $1,500 to $2,499 managed to stay above the margin of profitable production only because of the extremely favorable price relationships which prevailed between 1940 and 1944. It is questionable whether at long-term agricultural prices their limited production resources and facilities (as reflected in their production of only 10 percent of the Nation's output although they had 16 percent of its farms) would enable them to continue to produce an average gross farm income of almost $2,000 (which they did in 1944), and permit them to improve net worth

and take care of the living of the family adequately.

Area of Responsibility

To the extent that the Farmers Home Administration is successful in converting, over a number of years in the postwar period, say 1.5 million low-production family farms into efficient economic management units, that much will the agency contribute in making the industry as a whole stronger to withstand any economic shocks which our entire economy may experience in the future. To that extent will it reduce the chances of our being confronted again with farmers on public relief. Recent history has demonstrated rather conclusively that the farm which is too small and technologically backward to be considered an economically adequate unit for family operation and which is incapable of providing a decent living for the family under normal conditions is the weak link in American agriculture that is likely to snap at the first economic strain to which the industry might be subjected. Fortunately other groups both within and without the Department of Agriculture are also working toward strengthening these weak farms.

Objectives

To enable the small family-operated farm to compete more successfully with the efficiently run commercial family-type farm and even with larger nonfamily units, the loan policies and associated farm and home planning guidance of the Farmers Home Administration may well be geared to the following objectives.

1. Reverse the wartime approach of encouraging production at all costs in favor of reducing costs of production through the maximum utilization of land, capital, and manpower.

2. Raise the yield per acre and per unit of livestock and raise the production per worker.

3. Encourage diversification or specialization as the case or situation warrants.

4. Help tool and retool such farms by encouraging individual or joint ownership; by guiding the purchase of tools; by training in their proper use; and by stimulating the sharing, exchange, or custom hire of farm machinery that is adequate to fit the technical requirements.

5. Help these farmers to get a land base that is adequate for the utilization of modern machinery and equipment.

6. Emphasize conservation of land which today is more expensive in relation to its contribution to production than it was in the past.

7. Help improve buying and marketing practices, for a money economy is continuously making inroads into the operational and living expenses of the family farms.

Mechanization

Correct perspectives with respect to size of family farms require an awareness of the fact that mechaniza-

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Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed.

—UNESCO

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tion has caused, and will probably continue to cause, expansion in the size of all operational units. This means that as farm mechanization increases, the family farm will have to grow larger if it is to be an economic unit in the industry. More acreage will have to be handled by the labor of the family if its members are to be productively and fully employed with modern tools of production.

Directions

Fortunately, some recent trends in technological development appear to have been in a direction that favors family farms. In the opinion of Fowler McCormick, the outstanding result of engineering advances in farm technology in the postwar period "will be to give the small one-family farm every advantage available through mechanical equipment to the larger farm". (Testimony before the *Special Committee on Postwar Economic Policy and Planning*, H. R. 78th Cong., 2d sess., pt. 5, December 1944.)

The importance of this technological development—which has already brought on the market the small tractors, the two-row cultivators, and other small-capacity farm machinery planned for production at a price which operators of family-type farms can afford—should not be overlooked in any postwar program of habilitation that is designed to lift the economic efficiency of family farms. This importance may be summarized.

1. Technology and specialization need not necessarily make for large nonfamily farms.

2. Mechanical progress in the direction of small farm machinery is tending to moderate the size of the mechanized farm. When this process reaches its limits, the typical family farm may be expected to be, and should be, larger than the average family farm of today since even smaller models of farm machinery will require a minimum acreage for economic operation somewhat larger than that required for straight hand labor. On the other hand, these farms may be expected to be somewhat smaller than the mechanized farms of recent years which have been powered by larger models.

3. These technological changes in farm equipment, sized and priced for smaller farms, carry the prospects of improving the ability of the family farm to compete more successfully with larger operational units.

4. As small farms are enlarged, primarily by the process of combining small units, the number of full-time family-type farms will decrease. It is not unlikely that while this process is under way, the number of part-time farms and rural homes might actually increase.

The agricultural population, says Cato, produces the bravest men, the most valiant soldiers, and a class of citizens the least given of all to evil designs.

—PLINY THE ELDER

YOUR Agricultural Statistician

By W. F. CALLANDER. *If you don't know your State statistician already it is time you had at least this glimpse of him, Mr. Callander thinks. It might not be a bad idea to drop into his office and get acquainted with him.*

A MAN WAS driving his family through the wheat country of Illinois one late spring evening just as the dampness was beginning to settle over the fields. Suddenly he stopped the car. To his startled family he exclaimed: "I smell rust," and he tramped off into the twilight. A few minutes later he came out of the wheatfield with several stalks—unmistakably spotted with rust. In his notebook he jotted down the location of the field and the extent of the infestation. A new factor had entered into the official judgment of wheat condition in Illinois.

The man was State agricultural statistician for the crop reporting service of the Bureau of Agricultural Economics. A nose for plant diseases is just one item in his equipment for reporting the prospects of crops in his State and measuring the other factors that indicate farm production and purchasing power—such as crop acreages, livestock numbers, prices, wages, and stocks on hand. His most effective equipment is his contact with farmers throughout the State, and with the people who do business with farmers or who represent farmers in organizations and in local and State governments. He knows many of them personally. Visiting them in his travels around the State, or talking with them at meetings, he hears many reports on local agricultural conditions. Sometimes he is in charge of a corps of interviewers who collect information directly from farmers in various special surveys.

But most of his contacts have to be kept up by mail—through questionnaires that many of his voluntary reporters answer perhaps as often as once a month. Each State statistician has many mailing lists—general crop reporters, price reporters, fruit reporters, hatchery reporters, truck-crop reporters, and many more. They all contribute the answers about their own farms or their neighborhoods which make a statistician's office the "board of experts" for a never ending "Information Please."

"How does the Iowa corn crop look?" "How many acres of wheat have we planted in Kansas each year since 1910?" "Did the hurricane in Florida cause much real crop loss?" "How many fence posts on the average Wisconsin dairy farm?" "Will there be enough alfalfa seed this year?" "The Commissioner of Agri-

culture is making a speech in half an hour and needs some last-minute figures on crop prospects." "What was the average price of soybeans last season?" "What's the going wage for a hired man?"

These questions represent the kind of information constantly demanded by farmers and by people who work with farmers—facts about farm production, farm business, and farm people. Usually it's the State statistician who must produce the answers. But the system works both ways. The people who ask about any group of farmers or any farming area can often help the statistician maintain the corps of volunteers who report about their own farms or conditions in their neighborhood. All his figures and facts about areas within the State or for the State as a whole are based on reports from individuals, combined with his own knowledge, training, and experience. He is constantly recruiting new reporters who will agree to answer mailed questionnaires regularly.

Why?

Special surveys stir up such questions as: "Why does anyone want these facts about my farm?" The story of how items about individual farms and farmers are combined into knowledge of agriculture as a whole cannot be told too often. It is a story that can be told by everyone who uses statistics about agriculture or who has an interest in measuring agricultural prosperity.

Historically, statistics got their name because they were the facts needed by rulers and war leaders in conducting the affairs of the state—mostly military affairs. Early in history statistics were crown or government secrets. The progress of civilization has given government more functions than the conduct of wars, and in a democracy it has assigned these functions to the entire citizenry. So nowadays, agricultural statistics, collected by the Government, are public information—giving the whole country a continuous measure of farm production and of the condition of agriculture, and giving farmers as reliable business information as that available to people who trade with farmers.

Since the beginnings of this country, farmers have demanded current reports on crop conditions and prospects. Our farmers have said they need this information to protect them from guesswork and from false or misleading reports. As the national economy has become more and more complex, the domain of agricultural statistics has expanded from reporting on crops to cover nearly every condition affecting farm prosperity.

Multiple Talents

Obviously, the State agricultural statistician must know the practical

Scapegoat

About the weather not much can be done except learn how to take advantage of it when favorable, or minimize losses when unfavorable, or blame it for our mistakes.

—EPQ

Leading

When tillage begins other arts follow.

—Daniel Webster

side of farming. He knows on which side of a cow to set the milking stool, and that a whiffletree doesn't grow from the ground. He has a farmer's knowledge of the growing season which tells him what crops should be coming through the ground, what crops should be in flower, and which are ready for harvest. Besides his sensitive nose for crop conditions, he has a keen eye for plowed fields, grain-drill marks, the healthy colors of growing crops, and for the activities along the countryside which tell how the work is coming along.

He has to be a good hand with figures, so he can convert his observations and his reports from his correspondents into statistics, and then recognize whether these estimates reflect the truth. More than plain arithmetic—the latest developments in statistical sampling are based on calculus, so a thoroughly trained statistician has to have a pretty fair knowledge of advanced mathematics.

Nor is a statistician's job mere desk work. He has to be familiar with every farming area in his State. Frequently throughout the year he puts in a farmer's day outdoors—checking orchard damage in the wake of a hurricane or perhaps scanning across flood waters to appraise the damage to inundated farms. Untimely freezes may send him far from his own warm hearth. Pleasant days of the growing season often mean long hours of looking over fields, evaluating late changes not shown in his correspondents' reports.

A farmer gets plenty of chance to examine his own fields and to watch the progress of his crops, almost plant by plant. But the statistician, traveling along at automobile speed has to keep alert to recognize the varieties and conditions of important crops in the fields he passes. On some trips he must make an estimate or measurement of the acreages of crops in the areas he is visiting. He can get at this by measuring the frontage of different crops along the roads he travels.

Time was when the common way of measuring frontage was to look out a railroad car window and count the telephone poles spaced along fields of each crop. When statisticians adopted automobiles for their work they continued the telephone-pole method for a while. Then one of them with a mechanical turn worked out a machine called a crop meter which can be attached to an automobile speedometer. A series of keys and dials, something like an automatic calculator, makes it possible to record the frontage in feet of each crop separately. Rationing of gas and tires prohibited the use of the crop meter during the war, but it is appearing again in its accustomed place in the statistician's car.

Deadlines

A State statistician's life is just a series of deadlines. One report after another is due at the Crop Reporting Board in Washington, at the rate of about two a day all through the year. So each questionnaire he sends out has a "due date" on it. When his

State returns are in, he sends his estimates to Washington for review by the Board. There the reports from the 41 statisticians serving the 48 States are combined into national totals. None of the figures can be released until the time specified by law, so all people will have an equal chance at the information. Extensive precautions have been established to keep reports on speculative commodities "top secret" until release-time.

Complexities

Between mail questionnaires and his own observations and contacts State statisticians for years have met the requirements for information about farming and farmers. But nowadays more and more facts are required in judgments and economic interpretations by and about agriculture. Not all these facts can be collected by mail. The questions may become too involved, or it may be necessary to reach a more representative cross-section of farm people than can be reached by mail. Such facts are needed by the whole country, however, if farmers are to take their place in the National economy and receive something like their fair share of the Nation's wealth.

When an interviewer asks questions about hired hands, feed costs and the overhead on barns and pastures, he isn't snooping. He's seeking facts that will show individual dairy farmers how their operations compare with their average fellow dairyman in the State or the Nation. But more than that, the same facts will show people who are not farmers that milk is not a free gift from self-supporting cows.

New Techniques

Trained interviewers combined with new sampling techniques, under a statistician's guidance, produce the enumerative sample survey—the newest tool for agricultural statisticians and the most promising supplement to mailed questionnaires. This type of survey has already been conducted on a small scale to get information about people working on farms. A more inclusive experimental enumerative survey was conducted four times last year by the Bureau of Agricultural Economics, using the "master sample" as a basis. The master sample is a cross-section of farms linked with the 5-year Census of Agriculture in such a way that reliable national estimates can be obtained much more frequently than every 5 years by interviewing a relatively small number of the farm operators. This sample also makes it possible to obtain statistics not collected in the census.

Possession

In a sense, knowledge shrinks as wisdom grows: for details are swallowed up in principles. The details of knowledge which are important will be picked up in each avocation of life, but the habit of the active utilization of well-understood principles is the final possession of wisdom.

—A. N. WHITEHEAD

A new series of these quarterly surveys began January 1947. This series promises considerable improvement in the collection of up-to-date statistics about agriculture. Questions asked by trained interviewers covered such subjects as farm accidents, land prices, income (both farm and nonfarm) and expenses of farmers and farm families, inventories of crops and livestock, farm wages, and the number of people working on farms. About 20 farmers were interviewed in each of 806 selected counties—about one farmer out of every 375 for the United States as a whole. The sample areas are small parts of each county, containing about five farms each. They were chosen scientifically in such a way that conclusions based on the survey can be applied to American farm operators as a group, and not merely to the areas surveyed.

In some States the sample survey was large enough so that the data, tabulated on punched cards, can be used by the Land Grant Colleges in research studies or in education programs.

The Bureau of Agricultural Economics, as the central economic fact-gathering and research agency of the U. S. Department of Agriculture, is called upon to supply current facts and figures about agriculture to Congress, to farm organizations, to the executive branch of the Government, to State, local, and foreign officials, and to industries and individuals concerned with farming. Basic data that make these statistics accurate, or even possible, chiefly funnel through the State statisticians' offices.

Do you wonder at the statement of one little girl? When her teacher asked the class to tell about their parents' vocations, she stammered: "My daddy is an agri-cul-tur-al stat-is-ti-shun . . . whatever that is!"

Cooperation between the United States farmer and the Russian is nothing new. The best American wheat was derived from seed originally sent from Russia. It was Mark Alfred Carleton who brought drought- and rust-resisting Kubanka and Kharkov wheat from Russia to America—the famous Red Turkey forbears. Tenmarq, Krimka, and other staple varieties are of Russian origin, as well as Blackhull, Pawnee and Comanche. Ninety percent of our bread is made from grain of Russian origin . . .

—From Russian War Relief Pamphlet (1944)

Vitalizing Nutrition Education

By ROWENA S. CARPENTER. *In this article Mrs. Carpenter describes in some detail the coordinating aspects of the National Nutrition Program which Robert H. Shields mentioned briefly as one of the "action programs" of USDA, in his article in our preceding issue.*

NUTRITION education offers a never-ending challenge to those who invest time, energy, and ingenuity in the job. Like many other sound investments it pays small dividends, slowly but surely. The dividends, no matter how small, are invaluable returns for the effort expended. They take such forms as better eating habits, more green and yellow vegetables and tomatoes in home gardens, more jars and cans of home-preserved food stored for winter, wiser food selection at the market, better-balanced meals at the family table, sounder teeth and sturdier bodies for the children, more buoyant health for adults. If allowed to accumulate through the years, these dividends from nutrition education will eventually accrue until they total a stronger America because of the improved nutritional status of the people of our country.

No wonder, then, that many men and women in the fields of public health, nutrition, dietetics, and home economics have long accepted the challenge that vitalizing the story of good nutrition offers. No wonder, either, that the idea of coordination of effort on a national nutrition program took hold and flourished during the war. Small wonder, too, that when the pressure of wartime emphasis eased, many of the volunteer nutrition committees formed just before or during the war continued to pool their efforts on a long-range, peace-time nutrition program.

Granted that nutrition education should, and doubtless will, continue through one generation after another, the National Wartime Nutrition Program should go down in history as an outstanding example of the theory of coordination at work in practice. First, as the result of a recommendation of the Executive Committee of the Land-grant Colleges in 1940, and later under the forceful impetus of the National Nutrition Conference for Defense called by the President of the United States in May 1941, State Nutrition Committees were formed in all the States and in Puerto Rico and Hawaii. Step by step, county and local nutrition committees were created, until a total of nearly 4,000 committees were actively at work on nutrition problems on an entirely voluntary basis.

History in the Making

Growing as it did out of the early activities of the Council for National Defense, the nutrition program was soon Nation-wide in scope. A distinctive feature was the leadership offered from the Federal to the local level by: (1) The Interdepartmental Nutrition Coordinating Committee of the Government. This Committee was established by the Nutrition Division of the Office of Defense, Health, and Welfare Services of the Federal Security Agency. The Nutrition Division was the forerunner of the present Nutrition Programs office in the Department of Agriculture. (2) State Nutrition Committees, which were in a sense counterparts of the interdepartmental committee of the Government, but were broader in their membership, including civic, industrial, and lay representation. (3) The "grass-root" county and local nutrition committees that carried the nutrition program to families and individuals throughout the country, stimulating them to action on the nutrition front.

Coordination at Work

For the first time, everyone interested in working for improved nutrition brought his resources to a common pool, and all pulled together toward a common goal. Nutrition committee membership included men and women, "educators" and doctors, public health nurses and dietitians, extension leaders and research workers, and representatives of civic groups, food industries, the State or local government, PTA, and many another group. The various agencies and organizations that had long worked separately on their individual programs soon found that coordination of effort in committee projects was profitable for the overall nutrition program—the whole—and at the same time strengthened the individual programs—the component parts. This was true of groups working at the Federal, State, and local levels, and is still true to a large degree in spite of the fact that the wartime impetus no longer exists.

The Machinery

From its inception, the National Nutrition Program has been under the immediate direction of M. L. Wilson, who is also Director of the Extension Service, and of Dr. W. H. Sebrell, who is also chief of the Division of Physiology in the National Institute of Health. Functioning to keep the wheels of coordination well greased, the Nutrition Programs office works directly with a Nutrition Planning Committee made up of representatives of the United States Office of Education, the Children's Bureau, the American Red Cross, the Farmers' Home Administration, the Extension Service, and the Bureau of Human Nutrition and Home Economics.

This Committee meets in Washington once a month, with called meetings as necessary, for the purpose of coordinating the nutrition programs of the agencies with respect to national and State operations. Members of this Committee who travel in the interest of their own agency programs also act as consultants to designated State Nutrition Committees. The Nutrition Programs office keeps in touch with nutrition committees through correspondence and an occasional confer-

ence with State chairmen. The office also publishes a monthly Nutrition News Letter that goes to all nutrition committees and includes reports of committee activities as a means of exchanging ideas. (In addition, during the war the Nutrition Programs office—then a Branch in the War Food Administration—provided a home-economics-trained executive secretary to each State Nutrition Committee and five field consultants to coordinate the work of these secretaries, and held national and regional program-planning conferences for State Nutrition Committee chairmen.)

Vitalizing the Facts

The aim of nutrition committees was, and is, to make nutrition education so vital that people will want to eat both wisely and well. A program with such a practical goal must be developed along many lines. It must uncover facts about local food habits so as to know what improvements to feature in the program. It must find the strong and the weak spots in the local understanding of and interest in good nutrition. It must publicize in an understandable way the existence of dietary deficiency diseases and of borderline undernutrition, and then, in the simple terms of the layman, explain how these nutritional disorders can be corrected and prevented by improving the variety of the diet.

With such groundwork laid, nutrition committees proceeded to emphasize a host of points: Good returns in quality and food values for the money spent; the use of seasonal abundances for individual advantage and in the interest of the national economy; the growing of a garden with plenty of the vegetables that provide vitamins and minerals abundantly; the preservation of garden or market "surpluses;" the economy in making full use of the facilities of the community canning center; the importance of preparing food by methods known to retain maximum nutritive value, flavor, and attractiveness; the importance of serving appetizing meals that make eating a pleasure as well as a boon to nutritional health; the varying nutritive requirements of different family members—the baby, the toddler, the adolescent, and on to the eldest grandparent; the significance of the flour and bread enrichment program; the implications of, and our responsibility during, the world famine emergency; the reason for the 80-percent extraction flour, and minor adjustments needed in its use; the value of the school lunch program to individual children and the community as a whole; the importance of starting the day right with a good breakfast, and so on, ad infinitum. No challenge, large or small, was too difficult or too insignificant for nutrition committees to tackle for the nutritional betterment of fellow beings.

Ingenious Devices

Challenges were met by drawing on all resources offered by the agencies and organizations represented within the committee membership and other resources of the community made available to the nutrition committee as an entity. The accomplishments of these volunteer groups, working usually with no funds and with practically every member holding a full-time job outside of committee activity, estab-

lished an outstanding record. All educational and informational media were used.

The breadth and depth of the National Wartime Nutrition Program are indicated by the variety of means and media the nutrition committees employed. To reach the public they used canning caravans; a nutrition streetcar; food demonstrations; refresher courses in nutrition; discussion groups; nutrition reference shelves in libraries; traveling libraries, one of them in a horse-drawn "little red wagon" that was routed to outlying neighborhoods; chain telephone calls; information booths in public buildings, stores, and at fairs; bulletin boards in war plants, schools, and offices; better-breakfast campaigns; a lunch-box derby; exhibits of all kinds in many places such as vacant store buildings and trailer camps; the Vita-min-go game; the basic-7 food guide; various types of radio programs including skits and spot announcements; newspaper articles; nutrition film strips; and movies, including the Walt Disney picture "Something you didn't eat" and others developed especially for the national nutrition program. The cooperation of advertising firms, the food industry, commercial radio programs, newspapers, and magazines in carrying nutrition messages during the war was unprecedented.

Proof of the Pudding

No one who followed the work of the nutrition committees as closely as did the Nutrition Programs office in the Department of Agriculture could entertain a moment's doubt regarding the sincerity of effort or the tireless application of ingenious ways to vitalize the story of good nutrition. Nor could the value of coordination on a program of this kind be questioned. Evaluating and tallying the results is not so easy because much of value that is intangible does not lend itself to measurement. Certainly more people have become "nutrition-conscious" because of the National Wartime Nutrition Program and because of the part the State, county, and local nutrition committees played.

The Nation-wide nutrition vaccination has taken, even though for some it may be only a surface take. The few surveys that have been made to check on changes in dietary patterns and on the evidences of better nutrition indicate that many people are eating more wisely. For them at least the proof of the pudding has been in the eating. With many nutrition committees and other groups continuing to emphasize nutrition on a peace-time basis, more and more "puddings" should be proved by their eating in the years to come!

Oat Crops in Demand: IMPROVED VARIETIES

By T. R. STANTON. *Through breeding technology the Department of Agriculture and some of the Midwest States have vitalized the oat crop and have helped it to maintain its place in our agriculture while many horses and mules were disappearing.*

THE CONTINUING place of oats in American agriculture has been a surprise to many. When farmers in such large numbers turned from horses and mules to mechanized power it was rather generally thought that the oat crop would have to be greatly diminished. Moreover, the cost-of-production studies placed oats at a disadvantage in competition with other crops. There were those who expected to see large acreages that had been sown to oats gradually released for other use.

But this has not been true. There are several reasons why oats have held their own, in acreage seeded, acreage harvested, and in yield. In 1945, to be exact, we harvested the largest crop on record—more than 1,500,000,000 bushels. Farmers have persisted in their ways, it might be said, but their persistence has been more than justified.

Chief among the reasons is the development of disease-resistant high-yielding varieties that have plump grains of high-test weight making good feeding quality, and have stiff straw that will stand up for the combine. These attributes have materially improved the value of oats in relation to other crops. Moreover these varieties give higher yields and a more stable production.

Experiments have demonstrated the improved feeding value. They show that oats are equal to or even more satisfactory than many other grains as a high vitamin feed for most animals. Animal husbandmen have always prized oats as a bone- and muscle-building feed, especially for young and growing animals and for breeding stock. The new varieties with their higher ratio of groats to hulls have made oats still more highly regarded as a feed. Stockmen and farmers generally like to hold the crop for use on their own places rather than sell it, even at attractive prices. So the tremendous decline in the consumption of oats by horses and mules since the horse and buggy years has been about offset by the increase in consumption of oats by other classes of livestock, especially poultry.

Farmers have other reasons for growing oats. When cut at the soft-to-hard dough stage they make a palatable and highly nutritious hay, and oat straw has always rated first among the small grain crops for

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He is the greatest artist who has embodied, in the sum of his works, the greatest number of the greatest ideas.

—JOHN RUSKIN

roughage and for bedding farm animals.

Farmers know that no other crop fits in between corn and wheat, or corn and clover, in rotations and utilizes land and labor so efficiently. As a rule, no plowing is necessary in preparing the seedbed, especially when the crop follows corn or other row crops. Broadcasting on cornstalk land, before other field work is possible, saves time and spreads the use of labor and equipment, so that larger acreages can be handled by an individual farmer.

Cost of production studies have generally been reported on an enterprise basis. This means that the many advantages of growing oats, which cannot be readily evaluated or measured in terms of dollars and cents, were mostly overlooked when the results of these studies were reported. Regardless of the reported findings and regardless of many recommendations for reduced plantings, farmers have continued to grow about the same acreages of oats from year to year, and have received a generally higher average price per bushel than formerly.

Conquest by Breeding

Oats were becoming less popular during the late 1930's for there was a frequent occurrence of so-called poor oat years, characterized by low yields and an inferior quality of the grain. Most of the oats arriving at terminal markets of the North Central States were being graded as No. 3 or sample grade. Processors of oat products, particularly rolled oats, were finding it difficult to buy grain of satisfactory milling quality. Much of the deterioration in yield and quality was attributed to "heat damage" at the time the oats were ripening.

Later, disease was found to be the major difficulty. Breeding technology now came to the rescue. As an outgrowth of research in cereal rusts and smuts and in plant genetics, it soon provided several superior new disease-resistant varieties. Some were especially resistant to crown rust.

Epoch

Based on the development and distribution of these new varieties the production of oats in the North Central States has entered a new era. These States include three-fourths of the oat acreage and produce four-fifths of the oat crop of the United States. The crop has staged a real comeback in the Corn Belt and apparently has brought a greater appreciation than ever of the value to the farmers of scientific technological research.

Coalition

The seeking mind plus the abiding faith; the doer plus the dreamer—that is what makes the world move. That is what makes progress.

—RUTH TAYLOR

The status of oats in other regions, particularly in the Southern and Southwestern States, is being vitalized by the breeding and distribution of disease-resistant and better adapted varieties, but the results there have not progressed very far, partly because breeding better varieties has received less attention and because the crop, although important, is not grown so extensively.

Resistance

Creation of the first crown-rust resistant varieties was made possible by the introduction of Victoria oats from South America (in 1927 by the United States Department of Agriculture) and the discovery of its resistance to crown rust and smut. Through breeding, these qualities from Victoria and the resistance to stem rust and other desirable characteristics from Richland were combined in a group of new varieties that are highly resistant to both rusts and smuts. In addition they have superior yielding power, better grain quality, and resistance to lodging. These varieties are Boone, Cedar, Control, Tama, Vicland, and Vikota.

States Helped

They were developed cooperatively by State agricultural experiment stations and the Bureau of Plant Industry, Soils, and Agricultural Engineering. The experiment stations of Iowa, Wisconsin, South Dakota, and Nebraska each had a large part. After the general introduction of these varieties, their culture had spread so rapidly that, according to the best estimate available, they occupied about half of the 45,000,000 acres of oats harvested in the United States in 1945 and more than two-thirds of the 43,000,000 acres harvested in 1946. They represent the best group of disease-resistant oats ever grown commercially in the United States.

More and Better

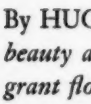
These varieties are producing 10 to 20 bushels more to the acre and weighing 3 to 4 pounds more to the bushel than did the varieties previously grown that were susceptible to crown rust. They have not only given the farmers a larger supply of oats, they have provided a surplus of better quality to sell, for the grain of these varieties is much better suited for the manufacture of rolled oats and for other industrial uses. The record-breaking crop harvested in 1945 and the almost record-breaking crop harvested in 1946 were due in large part to the intensive use of these disease-resistant oats.

Monetary Value

Estimates by the Iowa Station place the total increase in monetary value due to the growing of Tama, Boone, and Control in that State, in 1945, at around $40,000,000. The corresponding figures for these and similar varieties in Minnesota, Wisconsin, and Illinois were about $40,000,000, $22,000,000, and $20,000,000 respectively. Evidently funds invested in breeding work even with so humble a crop as oats, can pay big dividends to American agriculture.

Citrus Groves BRING *Future Problems*

By HUGH L. COOK. *Visitors to our citrus groves see only the beauty and romance of the glossy leaves, colorful fruit, and fragrant flowers. But the owners know that much work and many anxieties lurk among the trees. Research is hunting for alleviations.*



THE AMAZING productive capacity of less than a million acres planted to citrus trees was counted among the Nation's blessings during World War II. With the shortages of alternative products, great quantities of fresh citrus were taken in the domestic markets, while military and lend-lease requirements brought an unprecedented demand for citrus concentrates. The large yearly surpluses that had plagued the citrus growers in the late 1930's were brought to a halt. Customers everywhere were glad to find a chance to buy oranges and grapefruit.

But now that more normal conditions are prevailing, the growers find they are losing the advantages they gained during the war. They are somewhat concerned over the size of the crop and what is to be done with it, and their concern is deepened by the prospect of continued sharp increases in the crops of the future.

In 1944 there were about 650,000 acres of oranges in the United States and nearly 230,000 acres of grapefruit. Of the total acreages of these two fruits, more than half were less than 20 years old and about 80 percent were less than 30 years old. In most areas, the citrus trees continue to increase in size and bearing capacity for many years. Some produce well for 90 years, and 70 years is not unusual as the productive life of a citrus tree. Orange and grapefruit trees in Florida, and oranges in California, reach their heaviest production when about 40 years old. In other areas maturity is attained somewhat earlier but, in general, trees that are now less than 20 years old will not be at full maturity until 1970.

Our oldest citrus acreage is in California, principally Navel oranges and a few miscellaneous varieties. Of these, about a third are more than 50 years old. California Valencias developed later—three-fourths of the acreage is less than 30 years old.

Most of the Florida orange orchards are younger. Nearly 90 percent of the trees now standing in that State have been planted within 30 years, and 60 percent within 20 years. Fully half of all orange trees in this country are in Florida.

Grapefruit come principally from Florida and Texas, but some groves flourish in California. Florida dominates, with about half of the total acreage, and about half of its trees

are less than 20 years old. Most of the grapefruit trees now standing in Texas were planted from 10 to 20 years ago; their ultimate productive age is uncertain. If they last only 30 years, most of them will be gone by 1970 and the volume of Texas production by that time will depend almost entirely on whether there have been additional plantings. If more favorable growing conditions and cultural practices than have prevailed recently extend the average life of the trees now standing to 50 years, they may still be producing in 1970 as much as at present.

That cultural practices influence actual yield decidedly is suggested by the performance of our citrus groves. During the depression the returns were so low that growers spent less than usual on their care and fertilization of the trees. Average yields dropped below those of more prosperous times. Then came large wartime demands and high returns. At least in Florida there was a general fertilization, with more irrigation during droughts, and other improvements in culture. These practices established a much higher average level of yields, at least temporarily. It is too soon to say at what approximate level these improved cultural practices and the yields may be stabilized.

Assumptions

In making tentative forecasts of citrus production it can be assumed that the number of trees in the present groves will be approximately maintained by replacing any trees that are lost, until these groves reach their maximum age. These replacements will slightly reduce the average age and yield of the groves, but the normal rate of such replantings is so small that they have much less influence on the total production than other variable factors do.

The prospective increase in the production of the groves now planted is likely hereafter to hold down the rate of new plantings. In the more favorable locations and during times of prosperity, some plantings will be added and some groves will be removed but the supplies on the markets will be so abundant that plantings during the next several years are not likely to average as much as a really full replacement would.

Huge Potential Crops

All phases of the citrus industry are now thinking about future crops and markets. Estimates are made of the probable range of production at the end of 25 years. Production records of orange and grapefruit through the 1944 season are used as a basis. Depending on factors already enumerated—such as average length of productive life of present groves, how well they may be cared for, and how many new groves are planted—the total crop of oranges by 1970 may reach 12 or even 13 billion pounds—which would be practically double the average crop of the 5 years before the United States entered the war.

This country's crop of grapefruit may be around 5 or 6 billion pounds by that year—again about twice the size of the average crop during the 5 prewar years. Florida's production, if given good care and fertilization, might go much higher than double, but unless considerable new planting is carried on in Texas, the crops there will not be much larger, and might even decline.

The commercial production of lemons, mainly in California, shows wide seasonal variations but it increased from an average of less than 5 million boxes a year in the early 1920's to more than 13 million boxes on the average, during 1940–44. California lemon groves covered about 69,000 acres in 1944. Slightly more than half of the trees were less than 15 years, but most of the others were more than 25 years old. Under the assumption used for oranges and grapefruit, this means that by 1970 the annual crop of lemons will be decidedly larger than now.

Thus it appears that, by 1970, the production of the major citrus fruits in this country may be half as high again as it is now, and possibly twice as high. It is recognized that if production becomes too unprofitable over a period of years, the groves may be so neglected that the yields will fall off sharply and many groves may be abandoned. But as standing trees represent large investments efforts will probably be made to salvage them as long as the gross income exceeds the cash expenditures for current production and marketing.

Balancing Action

As a method of reducing out-of-pocket costs, growers in some areas instead of neglecting the entire grove may realize greater returns by removing the trees from part of the land and planting this released acreage to other crops while they apply improved cultural practices to the remaining trees, thus getting a high quality of fruit and a high rate of production. One specialist in Florida citrus reports that in some localities the improved practices have reduced the costs of production as much as one-half below the costs in 1938. On the other hand, if groves are neglected, the production costs are relatively high and the quality of the fruit is low, so the net returns for quantities sent to market are definitely lower. In some places crop diversification may be more satisfactory than a continued high degree of specialization in commercial citrus production.

Possibilities of perennial surpluses, now considered by the industry, may at least point toward a curtailment of acreage expansion and the need for broadened outlets for the growers. Marketing agreement programs and other methods of industry cooperation may curtail expansion and regulate shipments in such a way that the total average returns to the growers will be no larger than returns would be from alternative crops. If by volume control of shipments the growers receive returns that are in excess of those available from alternative crops new groves will be planted. A continued attraction of capital into new groves would aggravate the apparent surpluses and delay any serious long-run adjustments.

Market Expansion

In looking for broadened outlets, export markets come inevitably to mind. But the situation in regard to world citrus production and trade

Viewpoint

Modernity is a question not of date but of outlook.

—Sir Richard Livingstone

indicates a strong competition between citrus-producing countries for most of the foreign markets. We can expand our foreign markets somewhat perhaps, but the limitations will be severe.

Expansion of the domestic fresh market seems more promising. Efforts in this direction emphasize the necessity for economy in handling and distributing. An examination of the marketing margins and costs for fresh fruit sold domestically reveals possibilities. In the terminal market even small savings in such services as packing, transportation, and handling could strengthen the competitive position of citrus.

Some marketing specialists believe that the processing outlet may offer the greatest promise as a means of increasing the per capita consumption of citrus. They do not think that all processed citrus products will find a ready market at good prices—merely that some of these newer items may find an expanding market and so help to increase the general demand and maintain prices to growers in the face of increased supplies. Support for this view is found in the comparison, since 1938, between grower returns per box from processing outlets and from their fresh market. Usually tied to this favorable viewpoint on the prospects for processing is a belief that the use of fresh citrus fruits may be approaching a peak, so that increased consumption must be found in other ways.

Processed Products

The ability of the processing outlet to ease the problems involved in larger supplies will depend on tests still to be made. Canned citrus juices and segments, together with certain byproducts, marketed for several years before the war, met satisfactory acceptance. They enjoyed a sharply increased wartime demand and the prices to growers for fruit for processing strengthened rapidly. Newer techniques, resulting in many items such as frozen and dehydrated citrus products, dried pulp, and pectin, are now being tried out. The question is how much of the output from these techniques can meet the requirements of commercial production and marketing under rigorous peacetime competition.

Inquiry

Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.

—MARCUS AURELIUS

Ribbon Farms in America

By ROBERT W. HARRISON. *The picturesque quality of the strip farms in this country and the devotion of their owners have obscured too long the very real problems involved in that part of our French and Spanish heritage. This writer considers the question of their place in the agriculture of today and some of the consequences.*

THAT the longest main street in America is in a rural farm area has been well-publicized but there is as yet no general appreciation of the place in American agriculture of the communities of strip or ribbon farms which are the modern expression of the colonial land grants of France and Spain.

Extensive rural communities built around the land pattern established here by France and Spain are found in the Saint Lawrence River country, along the Rio Grande and Pecos River in New Mexico, and throughout lower Louisiana. Archivists have found accounts in early land records and documents of similar settlements in many other areas where the agriculture now bears little or no trace of the original method of land division.

Strip farms are simply the result of dividing land holdings in such a way as to give each settler a frontage, however small, upon a common stream or roadway. The grants were probably thought to be adequate to support a family, particularly as there were usually community lands or free lands near the holdings. These commons supplied fire wood and hunting or fishing as in Louisiana, or grazing, for cattle or sheep as in New Mexico. Countless subdivisions of the individual grants among family members and a loss of the commons have sometimes brought a severe population pressure on the land. Underemployment, poverty, and frequently malnutrition have followed from this basic maladjustment. Thus communities of ribbon farms are likely to be problem areas in the economic sense.

This division of property along a common stream or highway has sometimes been accompanied by a line form of settlement. The Bayou Lafourche and Bayou Teche settlements in French Louisiana are classic examples. Here the rural dwellings, each centered on its narrow farm overlooking the bayou, are so close together that in places they give the appearance of a village street scene. The same kind of settlement is found in the French communities of the Saint Lawrence area.

Line settlements do not always come from the division of property. The Spanish in New Mexico, for example, have held fast to the compact village, traveling each day to their fields which extend in ribbon-like fashion from the streams that supply water for irrigating the land.

Sociologists have given thought to the social value of such patterns and admirers have even proposed that they be tried elsewhere.

It is difficult to say precisely whether the strip farm and the line form of settlement are a geographic adaptation or a cultural trait unrelated to topographic situations. Certainly they proved admirably suited to the physiography of lower Louisiana. Each settler received a share of the higher and more productive land adjacent the streams with an easy access to boat landings. In New Mexico the nature of the irrigation works made this a feasible method of dividing land. In parts of French Canada, however, ribbon farms and line settlements are found in areas which could just as easily have been divided into scattered farmsteads—the usual English or American method. Evidently, these farms and settlements are likely to be a surface symbol of a deep-seated culture complex.

Distinctions

An unusually close family and community life and an intense devotion to the Roman Church, as well as certain distinctive food habits and a horse and buggy mode of travel, in places, distinguish these French and Spanish settlements. Among Anglo-Americans, life along the bayous and in the Spanish villages has been romanticized. The Acadians, thanks to Longfellow, occupy almost as well-known a place in our folklore as the Puritans or the Indians. Such modern writings as Kane's *The Bayous of Louisiana* and *Deep Delta Country* have added immeasurably to the current romantic notions concerning the French of lower Louisiana, and Southwestern writers are prone to make the most of the local color inherent in the Spanish village.

Severe economic problems characterize areas settled under these plans, as a matter of fact, and it is time the plight of many of these settlements be exhaustively studied. Unless some solutions are soon found any peculiar values their way of living may have will be destroyed by destitution and by the frustrations which easily come to a group whose mores do not readily harmonize with those of the greater society of which they are a part.

Common Characteristics

The French settlements near the Saint Lawrence River and in lower Louisiana and the Spanish settlements in New Mexico naturally have many individual problems which can be treated only in detailed studies of the local situations. But some common traits and experiences characterize these widely separated groups, and in a sense unite them in their search for economic and social well-being.

First is the fact that strip farms and line settlements and the cultures that produced them are outside the main current of agricultural development in the United States. It is this apartness which gives the French and Spanish communities their romantic flavor and, alas, forms the basis for their most severe economic maladies. Only since the closing of the frontier and the rise of a mechanized and highly commercial agriculture have the differences from their Anglo-Saxon neighbors stood out so clearly or constituted a social problem. For more than a century and a half these people continued secure in their circular, subsistence economies, more or less oblivious to the rapid and radically different developments of other

Right There

The most precious things in life are near at hand without money and without price. Each of you has the whole wealth of the universe at your very doors.

—John Burroughs

agricultural groups. Happy in their faith and their traditions, and protected by their isolated locations—the narrow valleys of New England, the swamps of Louisiana, and the wilds of the spacious Southwest—they were content to let the world pass by. Even along the much-traveled St. Lawrence where they were not geographically isolated they ignored the ships and at times showed resentment toward the ships' crews. As these settlers seemed to hold the less attractive lands the dominant and ambitious Anglos saw little reason to disturb them.

Closeness of family and group ties is evidenced in their failure to take part in pioneering the new land which was so important a phase of American agricultural development, and of American psychology generally. Students of the settlements in Louisiana point out that they failed to take any constructive part in the development of the rice-producing area in the Gulf prairies immediately to the west of the crowded bayou settlements. This land remained practically unused until grain farmers from the Corn Belt discovered, around 1900, its suitability for rice culture and developed there an intensive grain and livestock economy.

Similarly few Spanish-Americans of New Mexico took advantage of the homestead laws that would have given them, in some instances, substantial acreages of much-needed grazing lands. The requirement of actual residence on the claims prevented homesteading by those Spanish-Americans who would not consider leaving their native village to live on distant isolated tracts. De Tocqueville in his *Democracy in America* noted, at the time of the great westward movement, the unwillingness of the French near the Saint Lawrence to leave their villages.

"I have met with men in New England who were on the point of leaving a country where they might have remained in easy circumstances, to seek their fortune in the wilds. Not far from that region I found a French population in Canada, closely crowded on a narrow territory, although the same wilds were at hand; and while the emigrant from the United States purchased an extensive estate with the earnings of a short term of labor, the Canadian paid as much for land as he would have done in France."

Spanish Land Grants

In Spanish villages—as El Cerrito, La Questa, and Cerro—some farms were reduced by repeated subdivision till they were only a few yards wide. In lower Louisiana instances almost as extreme can be found.

As the inhabitants of these farms did not choose to enter the main stream of migration and land development it would have behooved them to look carefully after the common or community lands originally associated with most of their settle-

ments. This they failed to do. The Spanish grants in what is now New Mexico usually contained, in addition to the irrigated acreages, vast tracts of grazing land. They were to be held more or less as community property. In practice, one or two families usually owned the larger herds and used the land; the rest of the villagers worked for them when not occupied at home.

The treaty of Guadalupe Hidalgo, which closed the war with Mexico, provided that the United States recognize the Spanish grants in the area which later became New Mexico. The Land Office attempted to do this, but often the grants covering the community grazing lands were so vague that it was difficult or impossible to define the areas. In the long court struggles that followed, most of the Spanish-American grazing lands became part of the public domain of the United States, and subject to the homestead laws. The villagers of El Cerrito were successful in defending before the Court of Private Claims, in 1904, only 5,000 acres of the original 300,000-acre grant they had received from Mexico and had used for many generations for grazing. Similar experiences were common throughout Spanish New Mexico.

Consequence

Loss of title to their pastures did not at first worry these farmers. They had never felt a strong individual ownership in the common lands as in the irrigated holdings, and they could still use them. But in 1916, homesteading began in this part of the public domain. Soon cattle of other ranchers roamed the sparse pastures of the Spanish-Americans. Their economy would have been seriously threatened had they not found some employment at good wages in helping to build the railroads that were penetrating the West. When that work was done they were forced to become migratory laborers, following the grain and vegetable harvests back and forth across the country, returning in the off seasons to their native villages. Deprived of the economic basis of their home economy, and then driven from their seasonal jobs by increased mechanization, these people now face dark days.

Marshland Trapping

The French settlers along the Louisiana bayous have suffered somewhat the same experience in connection with the coastal marshlands which they had used freely for hunting and trapping. Titles to these lands have now fallen into the hands of absentee landlords, often corporations, who exact high rents in terms of a proportion of the animals trapped on them. Failure to acquire these lands legally when the titles could have been secured from the State or from levee boards at a few cents an acre was a grave oversight. These and countless similar experiences illustrate how ill equipped are the French and Spanish cultures for dealing with an aggressive society.

Difference

God made time but man made haste.
—Old Finnish Proverb

Without

Divested of their land, struggling in poverty, and exposed to invasion by a foreign culture, the French and Spanish agricultural communities have steadfastly resisted, until very recently, the ameliorating influence of modern vocational education—the password to economic freedom so effectively used by other alien groups in drawing closer to American ways. Most of them have remained unskilled laborers, working at such farm tasks as were near at hand or drifting into neighboring villages and towns as manual laborers of the lowest wage. The Gulf port cities all have their French migrants from the line settlements, just as the cities of the Southwest receive the Spanish-Americans in increasing numbers.

But—

Development of new lands for the French-speaking farmers of Louisiana through pump-drainage reclamation projects in the coastal marshes has been proposed by Federal agencies as a partial solution to their difficulties. Many thousands of acres of this marsh are suitable for farming, if reclaimed, but any agriculture that will be capable of supporting the original cost of reclamation and the high annual upkeep must be very intensive and commercial. These farmers have not only shown no aptitude for such farming but have even expressed a dislike for it.

The Spanish-Americans would probably use advantageously any additional crop lands which could be made available by expansion of irrigation works, but the irrigation cannot be expanded appreciably as the water supplies are now almost fully used. Land reclamation hardly seems to offer a solution to these French and Spanish communities.

Inevitability?

The drift of these people to villages and cities probably offers a clue to a solution of their economic and social problems. Training for city types of work will be more easily acquired and less expensive to provide, than training for a new place in agriculture. Experience has shown that in farm-training programs there is a much greater tendency for folkways to impede efficiency. In other work the hindering folkways are soon laid aside as they have little application in the daily production process.

Within the last 10 years the schools have been greatly improved, the church programs have been altered somewhat to fit the needs of a changing culture, and both State and Federal governmental bodies have become aware of the problems facing these families, and of some of the reasons why. Gradually the mind and habits of the French and Spanish Americans are turning away from the family hearth and toward the outside world. Certain values worth preserving will undoubtedly be lost in this change, but these people are apparently feeling an inevitability that draws them into the main stream of our agricultural and industrial life.

Readability for FARM FAMILIES

By AMY G. COWING. *A Readability worker in Extension parries a transient thrust which was uncovered in a story in our Winter number.*

IN THE PREVIOUS issue of the REVIEW, the new Yearbook Editor Stefferud gives us his commonsense recipe for preparing the coming Yearbook of Agriculture.

"In this new book we have 150-odd authors, each of whom has been told to write as he wants to write, not the way he thinks vaguely his superiors want him to write. He should write as he would like to be written to before he acquired his present knowledge of the subject; their articles must not sound as if they came out of a single mould or were subjected to a 'readability' scale that assigns good and bad points to the number of personal pronouns or passive verbs, or big words they contain."

With this gentle jab at readability formulas, he clears the air for those who expect too much from these readability yardsticks. He straightens out the simplifiers who try to write *to* a formula rather than use it as a measuring rod to *estimate* whether or not they are writing over their readers' heads.

All of us are ignorant enough on some subject to need to have it presented simply the first time. Unfortunately there is no magical formula for producing this simple writing. But using a formula gives us some guideposts to follow for making writing easier to read. It serves to remind us to use simple words and short sentences, and to bring in personal references whenever we can.

In our Readability Unit in the Extension Service, in Washington, we have studied formulas worked out by different readability researchers. For years these language psychologists have been taking writing apart to find out why some of it is hard and some is easy to read. But much of their research remained in the laboratory until extension workers started to apply it to communications written for farm families.

The Extension Service was the first Government agency to measure written material with a readability yardstick. They needed to know whether their writing could really be read by farmers. The work of the Extension Service has also been the proving ground of one of these scientific yardsticks—the Flesch Readability Formula. This formula does not measure all the factors that make for hard or easy reading, but it measures three important factors: Sentence length, length and abstractness of words, and human interest.

With this objective measurement we have tested the reading difficulty of more than 1,300 Extension publications from 48 States, all written for the use of farm people. State Extension editors tell us the formula ratings spare them arguments with some of their authors, for this impartial measurement takes personal opinion out of criticism.

As one editor expressed it, "It makes a grand lever for prying some of the stuffiness out of the writings of some of our people."

"It does my heart good," writes another editor, "to see you hop on words like *utilization* and *relationship* used so unnecessarily. We have worn down a lot of pencils crossing out these words for *use* and *relation*. Following your readability analysis of our 'Chinch Bug' bulletin, we succeeded in getting the bugs to *move* instead of always *migrating*, we *built* barriers instead of *constructing* them, we got rid of *sticks and leaves* instead of *debris*."

Our Audience

The Census people tell us that only about one-fourth of the farm adults in the United States have had more than 8 years of schooling. So when we write on high school and college levels we are writing for only one-fourth of our farm adult population. If we pitch our writing somewhere between fifth and eighth grade reading levels we can reach the greatest number of rural people. Even some college readers—particularly busy professional people—prefer the direct style of magazines like Reader's Digest (eighth to ninth grade level) for it saves them so much time in reading.

We recognize that even though many farm people have not had a chance to get much formal schooling, they are not lacking in intelligence or commonsense, although Glenn Frank said, "We often overestimate the stock of information readers have, and underestimate their intelligence."

Yearbook readers are "all kinds and conditions of men—farmers mostly; city folks too, like Philip Wagner, editor of the Baltimore Evening Sun, a collector of old Yearbooks, who reads and loves them; and college students, extension workers, gardeners, market men, and housewives"—as visualized by Editor Stefferud.

Some of these many readers would find his recipe for writing for the Yearbook comfortable reading. Tested by the Flesch Formula this recipe checks out 10th-grade level. But the large number of less-schooled readers might find it easier if he whittled it down to a seventh-grade version—something like this:

"In this new book we have about 150 authors. Each was told to write as he wants to write, not the way he thinks his superiors want him to write. He should write as he would like to be written to before he learned all he knows on the subject. The articles must not sound as if they came out of a single mold. They must not sound as if they were written to a readability scale that gives good and bad points to the number of big words, personal pronouns, or passive verbs they contain."

What About It?

Do we actually gain more readers when we use shorter sentences and simpler words? According to some

readership studies, the answer is, Yes. In a series of split-run surveys, Wallaces' Farmer is checking on the effect of the readability level on reader response.

In a survey of a 1946 Spring issue, half of the subscribers were interviewed on one version written on a ninth-grade level; the other half of the subscribers were interviewed on the same subject matter pitched at sixth grade. In both halves of the split run, the subject matter, headlines, illustrations, and place in the paper were the same. Nothing was changed but the readability level. The study is not completed but early findings indicate that the simpler version pulled the better readership.

We have made a few readership studies in the Extension Service that show the need for writing for some readers in familiar, concrete words. Some of the farm people interviewed in West Virginia did not understand "essential" and "equivalent," but they understood "necessary" and "equal." Some North Carolina homemakers were confused by the words "spiraling," "consumption," "sufficient," "specified," "maximum," and "minimum"—all good old Extension favorites. But they understood "rising," "use," "enough," "fixed," "largest," and "lowest." Many of the farm people interviewed in Louisiana did not understand such phrases as "crops for succulent grazing," "rotate poultry yards," "for fall renovation," and "reduced grain ration."

Not Talking Down

Even in States in which the average schooling of farm people has been found by the Census to be as high as ninth grade, extension workers are finding it advisable to put out sixth to seventh grade writing to communicate their ideas to the greatest number of farm readers.

We needn't feel that simplifying our writing for farm people is talking down to them. We can simplify without primerizing. It's a funny thing: Many of us haven't stopped to remember that some of the Psalms are as simple as the comics. Lincoln talked at Gettysburg in everyday words mostly of one and two syllables. Brisbane wrote his editorials in sixth grade English. Will Rogers made his fame with homespun philosophy so phrased that it checks out at fifth-grade level; and we remember how Ernie Pyle tugged at our heartstrings during the war, in seventh grade tempo.

Of course we can't all be Brisbanes and Ernie Pyles. Government people who are writing for farm families must write to inform; they must be clear rather than clever.

Even reports of research designed for scientific readers can well afford to be crystal clear. It is hard to write some economic and scientific material much below the 8th grade level and yet be accurate. Such technical subject matter is apt to be too difficult for less-schooled readers to comprehend. Some of it should remain in scientific journals for scientific readers. Important facts may be selected, sifted, and sorted and then translated for the laymen.

Patience

No leader can command a following if he moves too far beyond its horizon.

—Alan Barth

Protecting Our Perishables ON THEIR WAY

By PHILIP L. BREAKIRON. *Here is a reminder of valuable suggestions on saving waste of fruits and vegetables in transportation across the wide reaches of our continent. Apparently this matter cannot be stressed too often, and the urgent need for food all over the world emphasizes it again.*

IT IS an old story that most of our fruits and vegetables are raised so far from the customers who eventually use them that long transportation is necessary. This is particularly true in the winter and early spring months when most of our fresh fruit and practically all of our fresh vegetables must come from such far-away places as California, Mexico, and Florida. In the course of this long-distance transportation there has always been tremendous and unnecessary loss and waste of valuable foodstuffs. Efforts to reduce these losses have been many and persistent. But still the losses reach staggering figures.

More than a million cars were loaded with these perishables, in one recent year, for shipment to market within the boundaries of our own country. The loss attributed to preventable damage that occurred during transit was worth almost 11 million dollars. Damage claims to approximately that amount were paid. And this was in a war year, too, when these protective foods were especially needed.

Responsibility for this transportation damage is divided between the shippers and the carriers. The shipper is responsible for adequately preparing the perishables for the trip to market, including proper packaging of the commodities in suitable containers and carefully loading them into the refrigerator car for shipment. The railroads, on the other hand, have the responsibility for quick movement of the car to market and for careful handling of the shipment in transit. It is generally recognized by carrier and shippers alike that proper loading and bracing of each shipment are necessary for safe, efficient rail transportation of these commodities.

Two kinds of losses are incurred in shipping fresh fruits and vegetables by rail. One kind of loss results from decay or deterioration of the commodity which may be due to its inherent perishability, the presence of disease, or improper refrigeration and ventilation of the shipment in transit. The second type of loss, which usually involves breakage of the containers and usually results in crushing, bruising, or cutting of the commodity, is by far the most prevalent kind of damage. This type of loss is almost entirely preventable. Practical experience has

shown that proper loading and bracing of each shipment of fruits and vegetables will go a long way toward reducing it. A well-built, well-braced load can stand considerable rough handling in transit. Integrated stowing of the containers in the car helps the perishables to withstand shock and can weld several hundred relatively weak containers into a strong load. Taking up excess slack and providing a good bracing of the load to prevent its movement are further important precautions.

Many shippers of fresh produce have no way of knowing what happens to their shipments during transportation. They are often led to conclude that any and all damage is due to railroad negligence. This assumption may be justified occasionally, but in many instances it is not.

In the Dark

As the receiver usually assumes the responsibility of filing the damage claim with the railroad after he has paid the shipper, the shipper may not be aware of the degree of damage found in his shipments and may assume there is nothing wrong with the way his car was loaded. Because he is not aware of the facts, he may oppose any suggestion that he change his way of loading. He usually does not realize that the freight rates he and other shippers must pay are greatly influenced by the damage their products suffer in shipment. The damage incident to transportation of any commodity for which carriers pay claims is usually considered when the freight rates for that commodity are made. Therefore, those who pay the freight must indirectly bear the ultimate expense of the damage for which claims are paid. It is unfair that a shipper who loads his shipments carefully and efficiently should have to help pay for the damage in the shipments of others who may persist in disregarding the rules of good loading.

Voluntary Action

Some shippers are more progressive in respect to methods of loading probably because their financial interest extends through to the terminal markets. Both private and cooperative marketing organizations are included in this group. These shippers are in position to recognize the importance of good loading to efficient rail transportation because they have the opportunity to find out how much damage there is in one type of load as compared with another. Therefore, in many instances, they have voluntarily sponsored or adopted improved loading methods.

Obviously, it is to the railroads' advantage that damage to shipments be substantially reduced. They have long been working toward this end, but still the loss and waste is huge.

Prevailing Methods

The Department of Agriculture has studied causes and remedies from time to time for many years. Recently a new study was completed. Several prevailing methods of loading were investigated including some that are relatively new. Their advantages, disadvantages, costs, effects all came under scrutiny and comparisons were made. Different con-

tainers were studied, different methods of stowing, ventilating the loads, best methods of horizontal stripping—phases almost without number. The results have been published.

Needless Loss

Careless and inefficient methods of loading and bracing can undo the results of all the scientific cultivation, disease control, attractive wrapping and packaging, and other competitive efforts of growers and shippers to market a superior, high-quality product. A large part of the present unnecessary loss of these products between the producer and the consumer can be avoided if the growers and shippers would attack this problem as persistently and as scientifically as they have attacked the problems of production.

Repeated

Again, as at times in the past, more attention to first-class loading for the exact commodity involved is emphasized. Apparently the warning and emphasis needs to be made over and over again both by the groups involved and by disinterested agencies. For the general public is also the loser when a million dollars worth of good food is lost even though damages may be paid for it.

Next Step

Coming technical advancements in rail transportation of perishables will help. Modernized freight cars, faster freight schedules, and other innovations are on the horizon. Even so, investigators believe that the largest and most influential preventive will still be found in improved methods of loading and bracing the huge shipments of fruits and vegetables that thread the continent, west to east, south to north. These methods have been carefully studied and described. The next step seems to be up to the shippers, the carriers, and organized bodies of the public. Each of these groups can exert real influence toward improvement. Unless this is done, the present high cost of marketing these commodities will not be appreciably reduced and the result will be an unnecessary waste of much money, foodstuffs, and transportation.

Danger

Although we cannot always differentiate cause from effect, we are convinced that there is a somewhat close relationship between education and social progress and that conviction makes us wary of tolerating widespread misunderstanding in our midst.

—Paul A. Witty

Books

THE STRICKEN LAND: THE STORY OF PUERTO RICO. By *REXFORD GUY TUGWELL*. Doubleday & Company, Inc. Garden City, New York. 704 pages.

IS IT a stricken land? Puerto Rico has only one-fifth as much cropland per capita as the United States, yet three-fourths of the population depend directly upon agriculture. Unbalanced diet, limited health facilities, grossly inadequate sewage disposal, poor housing, and low incomes—these form the common lot of most inhabitants. Obviously their life is miserable even in so-called good times.

The book under review is mainly about Tugwell's governorship of Puerto Rico. It is interesting, intimate, personal, forthright, clear, valedictory. Events are explained as he saw them; mistakes are admitted. Puerto Rico's difficult present and uncertain future are discussed with intelligent human understanding.

Running through the book is Tugwell's basic economic and social philosophy. He holds ". . . that peace and security are the products of cooperation, not of competition; that warfare is merely an extension, and not a very far one, of the principle on which we have allowed our economic life to be organized; that this has brought out of the recesses of human nature the wrong traits, ugly and destructive ones, neglecting the rich stores of those which are generous and helpful."

Present land-tenure policy of the Island is based upon a provision in the Organic Act, passed by the U. S. Congress, which "prohibits the owning of more than 500 acres of land by a corporation." The land program provides for effective administration of this law. But Mr. Tugwell's discussion of land reform, unfortunately, is fragmentary.

Agricultural betterment is crucial but industrial expansion is a part of the basic plan. The urgently needed better health and educational opportunities instituted in recent years, and here described, give hope for the coming generation.

Tugwell's vivid first-hand picture of United States-Puerto Rico relations furnishes insight into the condition of dependent peoples everywhere. Pertinent problems are clearly stated. Here is good reading regardless of whether you agree with the viewpoint.

This book is not confined to Puerto Rico. For the well-being of the territory in the Caribbean is inextricably interwoven with that of the respective mother country and the British, Dutch, and French colonies of the area. This fact motivated the establishment of the Caribbean Commission by these four powers. It is significant that its first meeting was concerned with the acute land-tenure situation in the area, and that the meeting was held in Puerto Rico during Tugwell's governorship.

—*Marshall Harris*

LAND TENURE IN THE COLONIES. By *V. LIVERSAGE*. Cambridge, University Press; New York, The Macmillan Company. 151 pages.

LOOKING ABROAD, LOOKING AROUND, LOOKING AHEAD. By *COLIN MAHER*. The East African Standard Ltd., Nairobi, Kenya Colony. 58 pages.

IN A WORLD torn by political strife, an understanding of the close relations between forms of land tenure and economic, social, and political institutions is of utmost importance. These studies recognize this simple truth. They are designed to furnish information of value in redirecting tenure policy in the colonies, particularly in Kenya Colony.

Liversage undertook a monumental task in studying the evolution of systems of tenure in many parts of the world. His study was restricted neither to the colonies nor to contemporary development. A full analytical report on the world situation could not be made in this small volume, but this represents an excellent beginning.

His report may be divided into four parts: (1) a brief description of the tenure systems of the world, (2) the evolution of tenure forms, (3) the dangers of the freehold system and owner-occupation, and (4) possible remedial programs, as exemplified in recent public action in several countries.

The section on remedies is the heart of the book for anyone concerned with colonial administration. It will bear careful reading and study and should stimulate further work in the field. Students of land tenure can ill-afford not to have this volume as a reference on world systems of tenure and current thought in the matter.

MAHER DIVIDES his monograph into two major parts. More than half of it reviews the general problems of relating agricultural population to rural land resources in selected spots the world over. The second part has a too-brief review of the situation in East Africa and an indication of the direction action should take.

This could have been the most useful and interesting part of the book because of the immediacy of the problems and the possibility of results.

After looking around, he concludes that the traditional policy of the United States "to give the greatest possible security and freedom to the common man" has failed "to provide conservation of the land or security and prosperity for the people." Quotations from the Report of the President's Committee on Farm Tenancy (1937) are used to substantiate his conclusion. He skillfully uses the writings of three agricultural scientists in rejecting the peasant system of landholding in Germany as "unable to provide either cheap and ample food for the community or an adequate living for the agriculturist." He presents the pros and cons for making Britain largely self-sufficient in food production by nationalization of the land.

Immediate and positive government action to solve the land-tenure problems in Kenya Colony seems to be favored, although he is aware of the enormous difficulties.

Maher's discussion is adversely affected by his narrow concept of the role of agriculture—"to produce food and other products in the maximum quantity at the minimum cost" and "to preserve the land in a state such that it will be able to carry out the first function for future generations in perpetuity." He has discounted heavily such concepts as freedom and dignity, equality and equity, and security and stability.

If these volumes do no more than indicate clearly to many readers the value of a systematic study of the tenure situation throughout the world and the results of remedial action programs that have been tried, they will serve a worthy purpose.

—Marshall Harris

A Study of Rural Society. By *J. H. KOLB* and *EDMUND* deS. *BRUNNER*. Houghton Mifflin Company. Boston. 717 pages. (Revised edition.)

THERE IS GOOD reason why this work in its earlier editions is considered a standard text. It is scholarly and it stays close to basic research and fundamentals. From some viewpoints the new book may have too much data, but the integration and interpretation are good.

Studied with the two previous versions, this book charts well the progress made in rural research. It makes evident that research in certain areas—as in population and education—has been systematic and accumulative, permitting meaningful generalizations for the country as a whole. In other areas—as in local government, group relations, the rural church, rural health, and rural recreation—more systematic research is needed. This third edition makes noteworthy advance toward a comprehensive scientific study of rural society.

In this latest edition, the authors have tried painstakingly to revise it in keeping with the suggestions of hundreds of teachers who have used it in the colleges and universities. Some major changes appear. The book itself is divided into four parts: Rural People—Their Distinguishing Characteristics; Making a Living in Rural Society; Group Relationships; Institutional Arrangements. The reviewer believes the authors make their most substantial contribution in the last two parts. This is no mere accident, for the field of research and experience of the two authors is such that they can and do write these two units of the book with sympathetic understanding and firsthand knowledge.

—Douglas Ensminger

ALL THESE PEOPLE: THE NATION'S HUMAN RESOURCES IN THE SOUTH. By *RUPERT B. VANCE*. University of North Carolina Press. Chapel Hill, N. C. 503 pages.

POPULATION is a natural resource whose development depends upon soil, technological, and capital resources. Whether a heavy population is a liability or an asset, depends tremendously upon its effective living and functioning in correlation or integration with these resources.

There is a population pressure in the Southeast because a higher percentage of the native white women 20 to 44 years old are married than in any other region of the country, they bear more children, a higher percentage of the population is in the age groups that are not producers, and it exports a higher percentage of its men and boys than of its girls and women. In general, rural dwellers are more prolific than city dwellers, the younger population more prolific than the older, and the economically poor more prolific than the well-to-do. The population of the Southeast is dominantly rural, is comparatively young, and has many poor people. Expansion in agriculture and industry has not been large enough to take care of the natural increase.

With a little more than one-fifth of the population of the Nation and accounting for about 35 percent of the natural increase of the Nation's population, the region has only about one-eighth of the national income. In an attempt toward adjustment between population and income the region, in 70 years, has exported almost 4 million of its people to other areas, and almost 3 million have moved from the farms to southern cities. Dr. Vance says, "the South's population cannot continue to work in agriculture to the extent it once did when 60 percent of its cotton and much of its tobacco were sold abroad . . . . With the country's agricultural needs already well supplied, the South's insistent cry for a higher standard of living can be answered only by an expanded industrial production in which its workers take part."

The South has had considerable industrial development but "lacking the large incomes necessary to furnish capital to develop its own resources, the region sees its income remain low because its resources are appropriated at low prices by outside investors." Too large a percentage of the region's income comes from "extractive occupations," too small a proportion comes from better-paying sources. Too many of its industries have comparatively low value of profit and low value added by manufacturing. Labor is comparatively high among the costs of production, but wages are low.

Competition on the lower rungs of the economic ladder is naturally most severe where there is a heavy population. Loss of position on the lower rungs can mean dire poverty if there are no alternatives, but can mean progress if there are chances to gain footholds higher up.

All These People is the most authoritative and readable analysis of the total culture and economy of the South, especially of the Southeast, that has ever been written. It is a compendium of knowledge and although it is loaded with statistics and charts, it contains a full gamut of those cogent and interpretive statements for which the author is well known. —*Carl C. Taylor.*

FARM ORGANIZATION AND MANAGEMENT. By *G. W. FORSTER.* Prentice-Hall Inc. New York. 490 pages. (Revised edition.)

RESEARCH workers and teachers in agricultural economics will need but little introduction to this revised edition of Dr. Forster's text. The first edition, which appeared in 1938, was notable for the inclusion of an admirable chapter on the history of the development of farm management work both in this country and abroad—a subject on which too little has been recorded in any systematic manner. It was likewise notable for two major omissions—lack of discussion of farm records and accounts, and of types of farming in the United States. The author explains that these omissions were deliberate, as he attempted to adhere closely to the central themes of farm *organization* and farm *management* and to keep the text to manageable proportions.

The entire revised book gives evidence of careful reappraisal, but major changes are relatively few. Yielding to requests of those who have been using the book as a text, a chapter has been added on Farm Records and another on Farm Accounts. The elements of double entry bookkeeping are briefly presented and illustrated with a sample set of accounts. Short cuts to the double entry system are also discussed. This 35-page treatment of a subject about which whole books have been written will serve to introduce the college student to this field.

Dr. Forster has modified his earlier chapter on Farm Layout and on The Management of Labor and Working Capital to recognize the new developments in work simplification—the intensive study of economy in the use of labor which was applied to farming during the war. The chapter on Farm Layout could be improved by recognizing such erosion-control practices as contouring and terracing which may modify the conventional concept of the desirability of rectangular fields.

At several points one feels the need of further discussion of topics treated very briefly. This is true of the paragraph on page 10 which describes the average farm in the United States, based on the more than 6 million farms reported by the Census of 1930. It is true of the legend to figure 3, "Horses and mules are the principal source of farm power." For student use, the list of selected readings at the end of each chapter might well have been brought more nearly up-to-date.

All in all, this edition represents a distinct improvement of an already well-recognized text. Its easy reading style should enhance its value in the classroom and will make it no less attractive as a reference work.

—*Neil W. Johnson*

As it is necessary to relieve pressure on the printing fund of the Department of Agriculture the Summer Number of this magazine will be omitted.

U. S. GOVERNMENT PRINTING OFFICE: 1947

. . .
Through all the growing nation men stooped down
To finger the earth, to figure crops and soil,
Rotation, seasons, tools, and labor costs.
For every thousand who abused the ground,
Squeezed out its good and left it, moving west,
One man discerned the need for something more,
Some care, some thought, some reading in a book,
Suspecting that even in this continent
There lay somewhere an end to endless land. . . .

—*From Freedom's Farm*, by JOSEPHINE YOUNG CASE
(Houghton Mifflin Company)